

Ministry of Education and Science of Ukraine

National University of Food Technologies

85
**Anniversary International
scientific conference of young
scientist and students**

**"Youth scientific achievements
to the 21st century nutrition
problem solution"**

**dedicated to the 135th anniversary of the National
University of Food Technologies**

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Part 1

Kyiv, NUFT, 2019

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9.1.

Technology of meat

Chairperson – professor Liudmyla Peshuk

Secretary – professor Vasyl Pasichnyi

9.1.

Технологія м'яса та м'ясних продуктів

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4. Deficiency of proteins and ways its solution

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Introduction. Consumption of the required amount of protein is a fundamental factor in human health. The protein needs can be met by the complex consumption of animal and plant foods [1]. Proteins of plant and animal origin contain essential amino acids in different amounts and ratios. For example, animal protein from blood plasma is valuable because it contains all the essential amino acids. Collagen proteins are inferior. Soy - balanced in terms of the amino acid composition of the reference protein, but have insufficient amounts of sulfur-containing amino acids [2].

Materials and methods. To improve the technology of cooked sausage products was used the developed and investigated functional composition containing protein (FCP) with a balanced amino acid composition in amount of 30% with red chicken meat in exchange of hydrated soy protein and emulsion on the basis of pig skins and part of fatty raw materials. The influence of FCP on the proteins amino acid composition of the manufactured product samples and its biological efficiency, which was determined by biological value (BV), comparative redundancy and coefficients of differentiation of the amino acid composition (CDAAC) and utility, was investigated.

Results. Comparing the obtained results on the study amino acid composition of the experimental cooked sausages samples with using the FCP and the control sample, it is possible to note increase the number of essential amino acids to the established level in accordance with needs of person and the balance of their amount, as evidenced by the indicator of CDAAC, which for the experimental sample is at 11,95% and decreases by 4.6% compared with the control. For this sample, in comparison with the control, the number of all essential amino acids is increased by an average of 67.2%. The increase in the amount of meat raw material due to introduction of red poultry meat and the use of developed FCP with a balanced amino acid composition greatly influenced on the results. In the experimental sample there was a significant increase in the amount of lysine in comparison with the control sample. It is due to the use of poultry meat, which is characterized by high content of this amino acid and FCP, which includes soy proteins. The analysis of calculated data on determination of utility and comparative redundancy the amino acid composition of product shows that the use of FCP in the amount of 30% in combination with red chicken meat increases the utilitarian utilization rate by 7.2% compared to the control sample and is 0.89 and reduces the redundancy by 42.8% to the level of 0.04.

Conclusions. Using developed FCP in recipes of cooked sausages increases and balances the amino acid composition of experimental samples (there is an increase in the content of all essential amino acids). The obtained results indicate that protein preparations should be used in the form of binary and multicomponent mixtures in certain ratios of components that provide enrichment with the amino acid composition and modification of functional and technological properties.

Literature

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